

Vaccinia of the vulva *A case report*

J. S. McCANN, J. R. W. HARRIS*, AND J. D. H. MAHONY†

Department of Venereology, Royal Victoria Hospital, Belfast

Localized accidental vaccinia of the vulva, although considered in detail by Humphrey (1963) and referred to by Gardner (Gardner and Kaufman, 1969), receives little attention in most of the contemporary textbooks of venereology.

As it is unlikely that the virus can penetrate intact skin (Curth, Curth, and Garb, 1948), accidental vaccinia is assumed to follow the transfer of vaccine lymph to a site where the epithelial covering has been damaged. Obviously during intercourse there is a degree of trauma to the vulval epithelium and conditions are ideal for inoculation. The transfer takes place either shortly after vaccination, with the original lymph vaccine from the site of therapeutic inoculation, or when the vesicopustule discharges its own lymph after a successful vaccination. In an unvaccinated person heteroinoculation will cause a full primary type lesion with resultant scarring. The glabrous skin or mucous membrane of any accessible site may be affected. As far as the venereologist is concerned, the relevant clinical entities include involvement of the vulva, vagina, penis (Coriell, Blank, and Scot, 1948), scrotum (Lombardo, 1921), anus (Berkowitz, 1953), and mouth (Örn, 1942). In this paper we describe multiple lesions on the vulva and perianal region of a young woman who was referred to one of us (J.S. McC.) in March, 1970.

Case report

A 23-year-old married woman attended the clinic on March 20, 1970, complaining of perineal pain and a foul smelling vaginal discharge. She had first noticed the excessive vaginal discharge 3 days before consulting us and the following day became aware of several painful vulval sores. She went to her family doctor who referred her to the clinic.

Examination

This young woman was very anxious and obviously in some discomfort. She had a pyrexia of 101.4°F. and

tender bilateral inguinal lymphadenopathy associated with umbilicated vesiculopustular lesions distributed over both labia majora, the perineum, and around the anus (Figure). Separation of the labia revealed multiple ulcers with clearly defined margins on the labia minora. There was vaginitis with green frothy vaginal discharge and the cervix exhibited an erosion of the posterior lip.

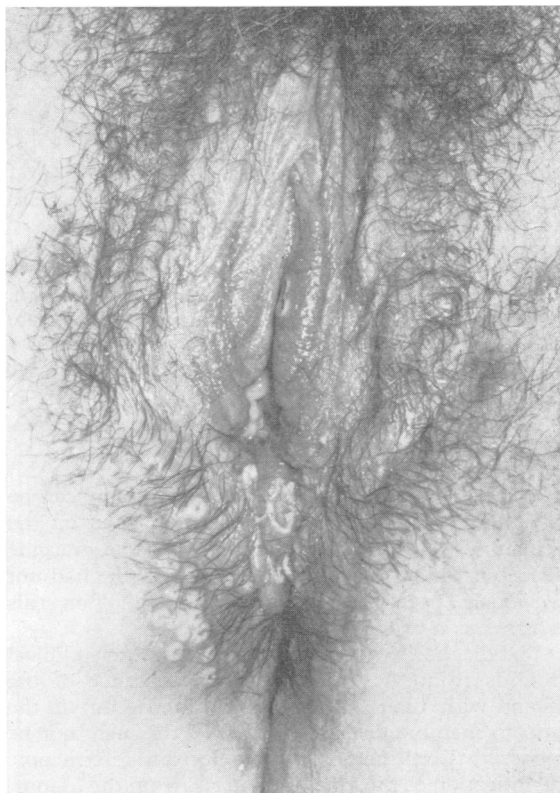


FIGURE Vulval and perineal lesions due to vaccinia

Investigations

The vulval and vaginal lesions revealed no *Treponema pallidum* on darkfield examination. A specimen of vaginal

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*Present address: King's College Hospital, Denmark Hill, London, S.E.5

†Present address: Kent and Canterbury Hospital (Canterbury).

discharge examined by darkfield microscopy was negative for *Trichomonas vaginalis*. Routine urethral, cervical, and vaginal cultures were negative for *Neisseria gonorrhoeae*. Smears taken from the vulval vesicles were found on electron microscopy to contain virus particles of the pox group. Serological tests for syphilis including the Wassermann reaction and Kahn, R.P.C.F. and FTA-ABS tests were all negative.

Management

On review 3 days later, the condition had deteriorated, and there was a small ulcer on the left breast lateral to the nipple. The patient was admitted to hospital and initially given metronidazole 200 mg. three times a day for 7 days, and soluble aspirin 1200 mg. 6-hourly. Saline compresses were applied to the vulva 4-hourly. When the virologist informed us of the presence of virus particles of the pox group, 500 mg. human antivaccinia gamma globulin was given intramuscularly on four occasions beginning on March 25, 1970. Within 24 hours of starting treatment with gamma globulin there was subjective and objective improvement. The vulval, cervical, and perineal lesions healed simultaneously and complete healing had occurred with some scarring by April 4 (*i.e.* 14 days after presentation).

CONTACT

The patient's husband was seen and denied any extra-marital exposure. He had been vaccinated against smallpox on February 24, 1970, at Aldershot, and had returned home on March 8, 1970, when he had a scab on his arm. The scab separated on March 10, 1970, when his arm became painful. Sexual relations occurred nightly from March 8 until the ulcers appeared on the patient's perineum on March 17. The husband was examined on March 27, 1970, and the healed vaccinia scar was observed on the left arm.

Discussion

In view of the time sequences involved, there can be little doubt that this woman was vaccinated on the perineum by lymph material from the vaccine vesicopustule on her husband's arm. As she had not previously been vaccinated against smallpox this behaved as a primary vaccination.

The diagnosis can be anticipated on purely clinical grounds from the characteristic appearance of the lesions with their central umbilications, but if the mucous membrane alone is involved this may not be apparent. Confirmation is by electron microscopic identification of the virus in material from the lesions, by isolation of the virus either on the chorio-allantoic membrane of chick embryo or in cell culture, and by

demonstration of a rising antibody titre to the virus.

In his extensive review of the literature, Humphrey (1963) found that, of the seventy cases of vulval vaccinia which he was able to review, almost half had occurred in adults, and that several of these had been accidentally vaccinated by other adults. Fiumara (1973) describes such a case, although the site involved was not the vulva. Sexual intercourse provides the intimate contact required for hetero-inoculation. In view of the large number of smallpox vaccinations carried out yearly in Great Britain, it is not unreasonable to expect that further cases will be observed.

The importance of the condition to venereologists is obvious, as genital ulceration occurs, and this may be associated with an acute biological false positive serological reaction.

Summary

Vaccinia of the vulva was observed in a 23-year-old woman. The condition was due to localized hetero-inoculation from her husband who had recently been vaccinated. The diagnosis and treatment are outlined. The relevance of this condition to venereology is discussed.

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Vaccine de la vulve. Rapport d'un cas

SOMMAIRE

Une vaccine de la vulve fut observée chez une femme de 23 ans. Cet état a été occasionné par une hétéro-inoculation localisée provenant de son mari qui avait été vacciné récemment. On expose les conditions du diagnostic et du traitement. On discute le rapport de ce cas avec la vénéréologie.